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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/703,399 08/26/96 KURUMIDA

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005514 LM01/0201  
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EXAMINER

HONG, S

ART UNIT

PAPER NUMBER

2776

DATE MAILED:

02/01/00

*36*

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/703,399

Applicant(s)

Kurumida

Examiner

Hong

Group Art Unit

2776

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 1-19-00.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 66-68, 70-71, 73-75, 77-78, 80-107 is/are pending in the application.
- ☐ Of the above claim(s) NONE is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 66-68, 70-71, 73-75, 77-78, 80-107 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

### **Part III DETAILED ACTION**

1. This action is responsive to communications: CPA request and amendment filed 8/3/98 to the application filed 8/26/96 which is a FWC of the application Ser. No. 08/155,656 filed 11/22/93; prior art filed 3/1/99.
2. In the amendment, claims 69, 72, 76 and 79 have been canceled and claims 81-105 have been added. Accordingly, claims 66-68, 70-71, 73-75, 77-78 and 80-105 are pending in this case. Claims 66, 73, 80, 85, 95 and 105 are independent claims.
3. The rejection of claims 66-68, 70-71, 73-75, 77-78 and 80-105 under 35 U.S.C. § 103(a) as being unpatentable over Seto, U.S. Pat. No. 5,398,311, 3/95 (filed 2/88) in view of Kokunishi et al., U.S. Pat. No. 4,897,638, 1/90 and Sakurai, U.S. Pat. No. 5,562,350, 10/96 (filed 4/89) has been withdrawn as necessitated by the amendment.

#### ***Priority***

4. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file.

#### ***Drawings***

5. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 66-68, 70-71, 73-75, 77-78 and 80-107 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Seto, U.S. Pat. No. 5,398,311, 3/95 (filed 2/88) in view of Kokunishi et al., U.S. Pat. No. 4,897,638, 1/90, Sakurai, U.S. Pat. No. 5,562,350, 10/96 (filed 4/89) and Foley et al., *Computer Graphics: Principles and Practice, Second Edition*, Addison-Wesley Publishing Company, Inc., 1990, pp. 488-490.

As per independent claim 85 and dependent claims 86, 91, 94 and 106-107, Seto discloses the following claimed elements in an outline forming apparatus:

- storing means for storing font data which include coordinate information indicating position of basic outline points for forming an outline of a pattern having a predetermined weight, and movement information, provided for each of the basic outline points individually, for moving each of the basic outline points using weight information indicative of weight of a pattern as a parameter (col.5, line 12, "A character pattern ..is expressed by a dot train P0, P1, P2 ...." and col.3, line 2, "... reference character data is stored as coordinate point

information on contours and which is provided arithmetic operating means ...[and] is enlarged or reduced in accordance with designated output size."; also see FIG.2B and col.5, lines 36-51);

- input means for inputting weight information indicating a desired weight of an outline of a pattern to be generated (col.5, line 55, "the output size designated by the keyboard ...and mouse...");

- means for converting and generating an outline of the pattern having the weight indicated by the weight information input by said input means, said outline being generated from outline points which are obtained by moving the basic outline points based on said weight information, the coordinate information and the movement information (col.3, lines 6-20, "...with designated output size, the coordinate point information indicative of the main outer shape is first subject to arithmetic operation for enlargement or reduction by using the coordinate value information as the absolute values....").

However, Seto does not disclose the following two limitations: (1) the movement information includes position information indicating relative positions of outline points of the pattern having a weight different from the predetermined weight relative to the positions indicated by the coordinate information, and (2) path information indicating a moving path of the outline points, in conjunction with change of the weight, between the basic outline points and the relative positions.

As per the missing limitations, Kokunishi discloses an outline forming system using moving the control points (see FIG.5) and using the movement information of the points with

respect to the different weight (col.3, lines 33-40). In the prior art, Kokunishi discloses the claimed element of: the movement information including position information indicating relative positions of outline points of the pattern having a weight different from the predetermined weight relative to the positions indicated by the coordinate information (col.9, lines 33-62, "Even a stroke of a same class can have various edge-side shapes ... for example, the starting edge-side may be added with serif or not and the ending edge-side is a straight line or a curve."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Kokunishi's invention into Seto, since Kokunishi explicitly provided the motivation in the disclosure by teaching that "the present invention ..provide[s] ...character patterns of high quality, while providing ...the feasibility of design change").

Still, Kokunishi and Seto is different from the claimed invention in that Kokunishi does not show the path information indicating a moving path of the outline points, in conjunction with change of the weight, between the basic outline points and the relative positions.

Although Kokunishi suggests varying the moving-path of the points so that different design styles can be assigned to different weights (col.9, lines 33-62, "*Even a stroke of a same class* can have various edge-side shapes.." suggests that different stroke class usually have different variance in the shape.) but does not explicitly show that in the prior art. However, varying the style of a character with respect to the scaling weight was well known technique in the art, as Sakurai disclosed a character forming invention "in which each vector character font is provided with an effective size range of character generation and with information on vector

character font of a style to be used outside said effective size range, thereby enabling character output with an optimum vector character font according to the character size (col.1, lines 45-50)." Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated, in the invention of Seto and Kokunishi, the means to vary the relative positions of the points with each other to vary the style based on weight, since Sakurai provided the explicit motivation by teaching that it would have solved the problems in the prior art (such as in Seto) that when "characters of all sizes are formed from a vector character pattern of a same style, small characters are easily filled in and become illegible (col.1, line 24)" and "[i]mage quality is deteriorated in a large character size, if the vector character pattern is simplified in complex portion (col.1, line 33)."

Furthermore, Kokunishi teaches the newly added feature. For the vectors describing the curve segment of the font character, Kokunishi teaches that a curve of second degree or higher, i.e., cubic polynomial vectors are used (col.12, line 6, "...in FIG.5, a bezier curve is used for interconnecting points... 617, 618 and 619, and a straight line is used for interconnecting points 619 and 611."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Kokunishi's feature into that of Seto, since it was well known that fonts, in general, include curved segments.

Although Kokunishi teaches the use of Bezier curve, Kokunishi does not explicitly disclose that the vector information includes a function of weight for the curve segment. However, Foley teaches the general format of the bezier curves (see page 489). Note that the bezier curves are described by the weight (or coefficients) to the curve (see equation 11.29 on page 489).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used the weights shown in Foley to describe the bezier curves of Kokunishi, which dictate the movement of the character serif curves (see FIG.5, item 618 in Kokunishi), since the bezier curves by definition used the weight to describe the amount of curvatures.

As per dependent claims 87, the prior art disclose the means for the path information changing based on the desired weight, but do not disclose that the path information is indicated by a function. However, the use of functions for the path information would have been obvious to a person of ordinary skill in the art at the time the invention was made, since Kokunishi pointed out that in the font art, the contours of the characters were expressed by the functions (col.12, line 5, "a spline curve is used for interconnecting points ...shown in FIG.5, a bezier curve is used for interconnecting points ....").

As per dependent claims 88 and 92, Seto does not explicitly teach that the vector information indicates a straight line and a curve line with degree information, wherein the degree information is second degree or higher. However, Kokunishi teaches the feature. For the vectors describing the curve segment of the font character, Kokunishi teaches that a cubic polynomial vectors are used (col.12, line 6, "...in FIG.5, a bezier curve is used for interconnecting points... 617, 618 and 619, and a straight line is used for interconnecting points 619 and 611."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Kokunishi's feature into that of Seto, since it was well known that fonts, in general, include curved segments.



As per dependent claims 89 and 90, Seto discloses an output means comprising a printer for outputting the patterns (col.4, line 28, "... a high speed printer ...serving as an image output section").

As per dependent claim 93, Seto discloses:

- judgement means for judging whether or not each of the basic outline points has non-zero movement information provided therefore and decision means for deciding the position of outline points for a pattern to be generated by moving each of the basic outline points having non-zero movement information provided therefor (col.6, lines 21-51; also col.6, line 54, "All of the values of FX ..., the offset values of the contour points indicative of the additional outer shape can be uniform or can be limited to a few kinds of values ..."; also FIG.2B and col.5, lines 24-51 that shows the means for determining the amount of non-zero movements and zero movements.).

Claims 66-68 and 70-71 recite limitations that are substantially in the claims 85, 89, 90, 86, 87, respectively, and are similarly rejected under the same rationale. Furthermore, Kokunishi teaches the feature. For the vectors describing the curve segment of the font character, Kokunishi teaches that a curve of second degree or higher, i.e., cubic polynomial vectors are used (col.12, line 6, "...in FIG.5, a bezier curve is used for interconnecting points... 617, 618 and 619, and a straight line is used for interconnecting points 619 and 611."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Kokunishi's feature into that of Seto, since it was well known that fonts, in general, include curved segments.

Claims 73-75 and 77-78 are for methods performed by the apparatus of claims 66-68 and 70-71, respectively, and are similarly rejected under the same rationale.

Claim 80 is for a computer readable medium having the instructions for executing the method of claim 66, and is similarly rejected under the same rationale.

As per dependent claims 81 and 83, Seto shows the claimed sending means for sending coordinate data, since the resulting font is outputted to an output device.

Dependent claims 82 and 84 recite limitations that are addressed with respect to claim 92 above, and are similarly rejected under the same rationale.

Claims 95-104 are for methods performed by the apparatus of claims 85-94, respectively, and are similarly rejected under the same rationale.

Claim 105 is for a computer readable medium having the instructions for executing the method of claim 85, and is similarly rejected under the same rationale.

#### ***Response to Amendment***

8. Applicant's arguments with respect to claims 66, 73, 80, 85, 95 and 105-107 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Hong whose telephone number is (703) 308-5465. The examiner can normally be reached on Monday-Friday from 8:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached on (703) 305-4713.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

**Any response to this final action should be mailed to:**

**Box AF**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

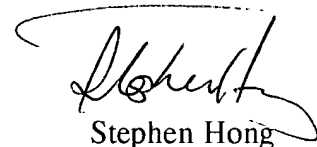
**or faxed to:**

(703) 308-9051, (for formal communications; please mark  
"EXPEDITED PROCEDURE")

**Or:**

(703) 305-9724 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).



Stephen Hong

Primary Examiner

January 28, 2000